VARIABLE OPTICL ATTENUATOR

ABSTRACT OF THE DISCLOSURE

A variable optic attenuator includes a carrier movable in a longitudinal direction and a variable neutral density filter mounted to the carrier. A stepping motor is drivingly coupled to the carrier for reciprocally moving the filter. The carrier is coupled to a variable electric resistor for generating a feedback signal for controlling the stepping motor. A mount defines a channel in which the filter moves. The mount has two reference surfaces perpendicular to each other and 45 degree inclined with respect to the primary direction. Two mirrors are securely attached to the reference surfaces. The mount defines two bores parallel to the longitudinal direction. The bores receive and retain input and output optic fibers in precise alignment with the mirrors. A passage is formed between the mirrors and extends in a lateral direction perpendicular to the longitudinal direction and further extends through the filter. The bores, the mirrors and the passage form a substantially U-shaped optic path between the input and output fibers whereby an optic signal transmitted into the attenuator through the input fiber passes through one of the bores and is reflected by one of the mirrors to travel along the passage, through the filter, to the other mirror and is then redirected through the other bore to the output fiber. The optic signal is attenuated by the filter with different extents of attenuation determined by the relative position of the filter with respect to the passage.